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ALICE - ARC integration

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AliEn or Alice Environment is the Gridware developed and used within the ALICE collaboration for storing and processing data in a distributed manner. ARC (Advanced Resource Connector) is the Grid middleware deployed across the Nordic countries and gluing together the resources within the Nordic Data Grid Facility (NDGF). In this paper we will present our approach to integrate AliEn and ARC, in the sense that ALICE data management and job processing can be carried out on the NDGF infrastructure, using the client tools available in AliEn. The interoperation has two aspects, one is the data management part and the second the job management aspect. The first aspect was solved by using dCache across NDGF to handle data. dCache provides support for several data management tools (among them for xrootd the tools used by AliEn) using the so called "doors". Therefore, we will concentrate on the second part. Solving it, was somewhat cumbersome, mainly due to the different computing models employed by AliEn and ARC. AliEN uses an Agent based pull model while ARC handles jobs through the more "traditional" push model. The solution comes as a module implementing the functionalities necessary to achieve AliEn job submission and management to ARC enabled sites.

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